

REMARKS

The specification was amended to include examples and material from parent U.S. Application, No. 09/576,623, now U.S. Patent No. 6,750,376. No new material was added by the amendment as the new paragraphs are directly from U.S. Patent No. 6,750,376, which was incorporated by reference, e.g., see col. 5, lines 41-44; 50-67; col. 24, lines 3-57.

Claims 1, 13, and 29 are amended and new claims 40-42 are added herein. Claims 11-12, 19-28, and 37-39 were previously cancelled. Claims 1-10, 13-18, 29-36 and 40-42 are pending for the Examiner's review and consideration. The amendments to the claims are fully supported by the original specification and claims. The amendments were simply made to clarify the claims to clearly distinguish the claims from the prior art. No new matter has been added by the amendments made herein. Entry of the amendments at this time is therefore respectfully requested.

Claim Rejections

Independent claims 1, 13 and 29 were rejected under 35 U.S.C. 112, first paragraph, because according to the Office Action the amended claims are directed to new matter. At pages 3 to 4 of the Office Action it states:

[t]here does not appear to be support in the specification for 'ascertaining the developmental timing of the nongametophytic ovule and ovary tissues consisting of the nucellus, pericarp, hypanthium, or pistil wall for each of the selected plants;

choosing a first and a second plant based on the cytoembryologically ascertained developmental timing of the nongametophytic ovule and ovary tissues, wherein the initiation of embryo sac formation of the first plant is at the same time or before meiosis in the second plant;

hybridizing the first plant with the second plant.'

Applicant respectfully disagrees. First, according to MPEP 2163.07 I, mere rephrasing of a passage does not constitute new matter. Accordingly, a rewording of a passage where the same meaning remains intact is permissible. *In re Anderson*, 471 F.2d 1237, 176 USPQ 331 (CCPA 1973). Furthermore, the mere inclusion of dictionary or art recognized definitions known at the time of

filing an application would not be considered new matter either. See, e.g., *Scarring Corp. v. Megan, Inc.*, 222 F.3d 1347, 1352-53, 55 USPQ2d 1650, 1654 (Fed. Cir. 2000). Finally, MPEP 2163.07(b) clarifies that an application may incorporate the content of another document or part thereof by reference to the document in the text of the specification. The information incorporated is as much a part of the application as filed as if the text was repeated in the application, and should be treated as part of the text of the application as filed. Replacing the identified material incorporated by reference with the actual text is not new matter. See, for example, the parent, U.S. Patent No. 6,750,376, which was incorporated by reference (col. 5, lines 41-44; 50-67; col. 24, lines 3-57; abstract).

While the claims have been rephrased and material from the parent application has now been incorporated, no new matter has been added. For example, in Example 1 on pages 26-27, it specifically states the need to "cytoembryologically characterize" divergent plants by relating stages of megasporogenesis and embryo sac development stages of integument and gross ovary development, "characterize and statistically analyze the cytoembryological differences among lines"; and to "choose lines that are divergent." In addition, Example 5 of the specification provides the specific example of the step of "Quantifying Divergence in Female Developmental Schedules." This section specifically coincides with the step of cytoembryologically ascertaining the developmental timing of the nongametophytic ovule and ovary tissues.

As stated throughout the disclosure, the focus of the present invention is directed to Applicant's discovery methods of producing apomictic plants from sexual plants divergent with respect to schedules of megaspore and gametophyte timing. This is the focus of the entire patent application. The Applicant's disclosure teaches and enables one skilled in the art to identify (through cytoembryological techniques) the developmental timing of the nongametophytic ovule and ovary tissues (e.g. nucellus, integument, pericarp, pistil, etc.) of plants to be used to produce an apomictic parent plant.

From this cytoembryological information, one is then taught to choose plants to hybridize, wherein the initiation of embryo sac formation of the first plant is at the same time or before meiosis in the other plant, thereby producing an apomictic parent plant, which can be further stabilized by doubling the chromosome number. This is clearly taught in the specification and the parent "Patent No. 6,750,376 ("Appropriate degrees of asynchrony include but are not limited to situations in which

megasporogenesis in one line is initiated at about the same time embryo sac formation is initiated in the other line relative to the development of nongametophytic ovule and ovary tissues (nucellus, integuments, pericarp, etc)"; "A preferred system is to identify divergent plants from within a species . . . accentuate the divergence by breeding, and produce artificial amphiploids that contain genomes from the apposing divergent plants. Apomixis results from the asynchronous expression of female developmental programs induced by crossing the reproductively divergent plants.", which is incorporated by reference.

In view of the above, Applicant respectfully requests that this rejection be withdrawn.

Claims 1-10, 13-18 and 29-36 were rejected under 35 U.S.C. 103(a) as being unpatentable over Bashaw (1980), in view of Savidan (1982), and further in view of Dujardin (1988) for the reasons set forth on pages 3-6 of the previous Office Action. The Office Action, at page 5, acknowledges that the prior art does not teach all of the claim elements, but improperly ignores the claims elements by simply concluding that they are new matter. According to the MPEP 2163.06 I "[t]he examiner should still consider the subject matter added to the claim in making rejections based on prior art since the new matter rejection may be overcome by applicant."

As stated in the Office Action the prior art "does not teach the developmental timing of the nongametophytic ovule and ovary tissue consisting of the nucellus, integument, pericarp, hypanthium, or pistil wall for the selected plants." The prior art fails to teach or suggest each of the claim elements as admitted in the Office Action, therefore the claims cannot be found to be made obvious.

As is evident in the parent Patent No. 6,750,376, Applicant was the first to discover and teach the presently claimed method of producing apomictic plants from sexual plants based on divergent megaspore and gametophyte development. None of the prior art taught choosing plants to hybridize based on the cytoembryologically ascertained developmental timing of the nongametophytic ovule and ovary tissues as taught by Applicant and presently claimed.

The presently claimed method requires the following critical steps of: (a) cytoembryologically ascertaining the developmental timing of the nongametophytic ovule and ovary tissues consisting of the nucellus, integument, pericarp, hypanthium, or pistil wall for each of the selected plants; (b) choosing a first and a second plant based on the cytoembryologically ascertained developmental timing of the nongametophytic ovule and ovary tissues, wherein the initiation of

embryo sac formation of the first plant is at the same time or before meiosis in the second plant; and
(c) hybridizing the first plant with the second plant.

Bashaw fails to teach or suggest these critical steps. Again, this hits at the core of Applicant's surprising discovery and the present claims.

Savidan fails to remedy the deficiencies of Bashaw. While Savidan does teach general cytoembryological techniques, it does not teach or motivate one skilled in the art to modify the method of Bashaw to include the critical and specific steps discovered and taught by Applicant. Namely, cytoembryologically ascertaining the developmental timing of the specific ovule tissue claimed; choosing a first and second plant based on the cytoembryologically ascertained developmental timing information of the specific ovary tissue so that embryo sac formation of the first plant is at the same time or before meiosis in the second plant, or the step of hybridizing the specifically chosen plants.

Dujardin fails to remedy the deficiencies of both Bashaw and Savidan. Dujardin teaches the generic doubling of chromosomes. This does not remedy the lack of teaching with respect to the specific steps of the presently claimed method of producing genetically stable apomictic plants. Again, the claims require the steps of: ascertaining the developmental timing of the nucellus, integument, pericarp, hypanthium, and pistil wall; choosing a first and second plant based on the cytoembryologically ascertained developmental timing of this specific tissue, wherein the first plant initiates embryo sac formation before or at the same time the second plant is going through meiosis; followed by hybridizing the specifically chosen plants in Applicant's specialized process of producing a genetically stabilized apomictic plant. Dujardin teachings with respect to the generic doubling of chromosomes clearly do not teach or suggest any of these steps and thus could not remedy the deficiencies of Bashaw and Savidan.

In addition, there is no motivation in any of the cited references to modify the method of Bashaw of simply hybridizing apomictic plants to incorporate these specific steps as set forth above. Thus, even if they were taught, there would be no motivation or reason to go through all of the extra work of cytoembryologically ascertaining the developmental timing of the nucellus, integument, pericarp, hypanthium, and/or pistil wall of the selected plants in order to be able to use this specific information to choose a first and second plant based on this developmental timing information gathered to identify a first plant that initiates embryo sac formation before or at the same time the

Title: "Methods for Stabilizing and Controlling Apomixis"

U.S. Serial No. 10/772,243

second plant is going through meiosis in order to hybridize the chosen plants to produce a genetically stabilized apomictic plant. Without this teaching and/or motivation in the prior art the present claims cannot properly be found to be obvious.

Thus, the prior art cannot make obvious the presently pending claims. For all of these reasons, Applicant respectfully requests that this rejection be withdrawn.

In view of the above amendments and arguments, Applicant believes the claims are to be in condition for allowance. If there are any questions, the Examiner is invited to call Applicant's representative Rodney Fuller at (602) 916-5404 to resolve any remaining issues to expedite the allowance of this application.

Respectfully submitted,

Date: November 12, 2008/Rodney J. Fuller/

Rodney J. Fuller

Reg. No. 46,714

FENNEMORE CRAIG

Customer No. 27,887

602-916-5404